

Handwritten initials

JCWSCS 18 JUN 2004

FILE COPY

06-18-2004 10:41am From-PATTON BOGGS LLP

+3038610846

T-959 P.001/005 F-670



1880 Lincoln Street, Suite 2050
Denver, CO 80264
(303) 830-1776

Facsimile: (303) 894-9239

To: Office Of Initial Patent Examination's Filing Receipt Corrections
Company: USPTO
Fax Number: 1-703-746-9195
Phone Number: 1-703-308-0910
Serial No. 10/626,413

Total Pages
Including Cover: 45

From: Elaine C. VonSpreckelsen, Patent Prosecution Specialist
Sender's Direct Line: (303) 894-6163
Date: June 18, 2004
Client Number: 013176.0431C1US (Formerly 13176.431US)

Comments:

ANCHORAGE
DALLAS
DENVER
NORTHERN VIRGINIA
WASHINGTON, D.C.
DOHA, QATAR

Serial No.: 10/626,413 Group Art Unit: 2812
Filed: 24 Jul 2003 Examiner: Tsai, H. Jey
Confirmation No.: 9869

Attached please find the following documents to be entered into the above application:

1. Request For Corrected Filing Receipt (1 page)
2. Copy of Official Filing Receipt (2 pages)
3. Copy of first page of application as filed (1 page)

Thank you for your attention to this matter. If you should have any questions, please do not hesitate to contact me.

Confidentiality Note: The documents accompanying this facsimile contain information from the law firm of Patton Boggs LLP which is confidential and/or privileged. The information is intended only for the use of the individual or entity named on this transmission sheet. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution or the taking of any action in reliance on the contents of this facsimile is strictly prohibited, and that the documents should be returned to this Firm immediately. If you have received this facsimile in error, please notify us by telephone immediately so that we can arrange for the return of the original documents to us at no cost to you.

If you did not receive all of the pages or find that they are illegible, please call (303) 830-1776.

Practitioner's Docket No. 013176.0431C1US (Formerly 13176.431US)

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Paz de Araujo, Carlos A.; McMillan, Larry D.; Solayappan, Narayan; Joshi, Vikram.
Application No.: 10/626,413 Group No.: 2812
Filed: 07/24/2003 Examiner: Tsai, H. Jey
Confirmation No.: 9869

For: FERROELECTRIC AND HIGH DIELECTRIC CONSTANT INTEGRATED CIRCUIT CAPACITORS WITH THREE-DIMENSIONAL ORIENTATION FOR HIGH-DENSITY MEMORIES, AND METHOD OF MAKING THE SAME

Office of Initial Patent Examination's
Filing Receipt Corrections
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR CORRECTED FILING RECEIPT

- Attached is a copy of the Official Filing Receipt received from the PTO in the above application for which issuance of a corrected filing receipt is respectfully requested.
- There is an error with respect to the following, which is incorrectly entered:

Error in
Domestic Priority data as
claimed by applicant

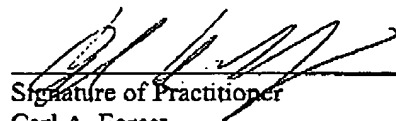
Correct data
This application is a CIP of 10/302,441 11/22/2002
AND is a CIP of 10/302,442 11/22/2002
AND is a CIP of 09/998,469 11/29/2001

A copy of the first page of the application as filed is also enclosed.

- The correction is not due to any error by Applicants and no fee is due. If any additional fee is due, please charge Deposit Account No. 50-1848.

Date: 6/18/04

Reg. No.: 28,494
Tel. No.: 303-894-6114
Fax No.: 303-894-9239


Signature of Practitioner
Carl A. Forest
Customer No.: 24283

CERTIFICATE OF MAILING/TRANSMISSION (37 C.F.R. Section 1.8a)

I hereby certify that this correspondence is, on the date shown below, being:

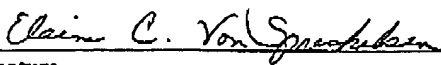
MAILING

- ☐ deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to Office of Initial Patent Examination's Filing Receipt Corrections, Commissioner For Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date: June 18, 2004

FACSIMILE

- ☒ transmitted by facsimile to the Patent and Trademark Office at 703-746-9195.


Signature

Elaine C. Von Spreckelsen
(type or print name of person certifying)

(Request for Corrected Filing Receipt--page 1 of 1)

199543v1



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

APPL NO.	FILING OR 371 (c) DATE	ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/626,413	07/24/2003	2818	1932	13176.431US	12	81	4

CONFIRMATION NO. 91169

24283
 PATTON BOGGS
 1660 LINCOLN ST
 SUITE 2050
 DENVER, CO 80264

FILING RECEIPT



0C000000012261858

Date Mailed: 04/02/2004

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

Applicant(s)

Carlos A. Paz de Araujo, Colorado Springs, CO;
 Larry D. McMillan, Colorado Springs, CO;
 Narayan Solayappan, Colorado Springs, CO;
 Vikram Joshi, Colorado Springs, CO;

Assignment For Published Patent Application

Symetrix Corporation, Colorado Springs, CO;

Domestic Priority data as claimed by applicant

This application is a CIP of 10/302,441 11/22/2002
 which is a CIP of 10/302,442 11/22/2002
 which is a CIP of 09/998,469 11/29/2001

Foreign Applications

If Required, Foreign Filing License Granted: 04/01/2004

Projected Publication Date: 07/08/2004

Non-Publication Request: No

Early Publication Request: No

RECEIVED

APR 05 2004

Patton Boggs LLP

Date Docketed: 4/6/04
 Received by: [Signature]
 Sec: [Signature]
 Atty: [Signature]

Title

Ferroelectric and high dielectric constant integrated circuit capacitors with three-dimensional orientation for high-density memories, and method of making the same

Preliminary Class

365

**LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15**

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Office of Export Administration, Department of Commerce (15 CFR 370.10 (j)); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

13176.431US

**FERROELECTRIC AND HIGH DIELECTRIC CONSTANT INTEGRATED
CIRCUIT CAPACITORS WITH THREE-DIMENSIONAL ORIENTATION FOR
HIGH-DENSITY MEMORIES, AND METHOD OF MAKING THE SAME**

5

RELATED INVENTIONS

This application is a continuation-in-part application under 37 CFR 1.53(b) of U.S. Patent Application Serial No. 10/302,441 filed November 22, 2002, and U.S. Patent Application Serial No. 10/302,442 filed November 22, 2002, and U.S. Patent Application Serial No. 09/998,469 filed November 29, 2001, which are hereby
10 incorporated by reference.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention pertains to the field of high-density memories and, particularly, memories that utilize ferroelectric capacitors.

15 *2. Statement of the Problem*

Ferroelectric memories are nonvolatile memories offering performance and densification advantages over conventional nonvolatile memories, such as electrically erasable programmable read only memories (EEPROM) and erasable programmable read only memories (EPROM). U.S. Patent No. 5,046,043 issued September 3, 1991
20 to Miller et al. shows a 1T/1C memory cell having a lead zirconium titanate (PZT) ferroelectric capacitor alternatively stacked over a contact hole or within a conduit leading to the transistor source/drain region. The configuration of the Miller et al. ferroelectric memory cells is similar to that of a conventional dynamic random access memory (DRAM) cell. However, the operation and timing are different, particularly in
25 that the cell does not need to be refreshed as often because memory storage is relatively permanent. A refresh operation is one in which the memory logic senses the state of the memory cells and writes the state of the memory that has been sensed back to the memory cells in an identical format to that which has been sensed.

Permanence or nonvolatility of memory storage results from the ability of
30 ferroelectric materials to polarize in the presence of an applied electric field, and to retain that polarization state once the field is removed. Thus, a logical one or zero is represented by the polarization state of the ferroelectric material in the capacitor. Memory sense amplifiers and logic circuits are used to determine the polarization state